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ABSTRACT

A brief historical perspective on teacher education in the United States lays the foundation for a discussion of the forces and factors which are driving a reconceptualization of teacher education for the future. In a discussion of traditional conceptions of teacher education, the views of teacher educators on the dichotomous approach to preservice and inservice programs are examined. Also under consideration is the increasing role of state departments of education in determining assessment measures for teachers both before entry into the profession, and in setting standards by which teachers can eventually earn certificates as "Master" teachers. This discussion is followed by an examination of the development of research on teaching and teacher education and how this research has informed, and might better inform, teacher education. Three specific recommendations are made regarding teacher education and research on teaching. (JD)

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RESEARCH ON TEACHING AND ITS RELATIONSHIP TO TEACHER EDUCATION

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RESEARCH ON TEACHING AND ITS

RELATIONSHIP TO TEACHER EDUCATION

Teacher education in the United States is under the gun. Public attention fueled by a series of highly critical national studies of public education (e.g., Gardner, 1983; Goodlad, 1984) has led to a political climate where pressures are mounting for radical changes in the way schooling in general and "schooling" of teachers in particular is carried out. Many teacher educators have expressed the view that this is a "best of times/worst of times" situation. "Best" because the resources needed to mount major change efforts may soon become available. "Worst" because changes are likely to take the form of policy mandates shaped by public perceptions of the problems in classrooms and schools rather than by the growing body of research on effective schooling. My purpose in this paper is to relate one part of this body of research on schooling--the research on effective teaching--to directions in policy for teacher education.

I will begin with a brief historical perspective on teacher education in the United States leading to a discussion of the forces and factors which are driving a reconceptualization of teacher education for the future. This discussion will be followed by a careful look at the development of research on teaching and how this research has and might better inform teacher education. I will close with some specific recommendations for action that might help us realize the tremendous opportunity for positive change in teacher education which is within our reach at this time as in perhaps no other point in our history.

Traditional Conceptions of Teacher Education

Over the past half century teacher education has been dichotomized between preservice and inservice components (Figure 1).

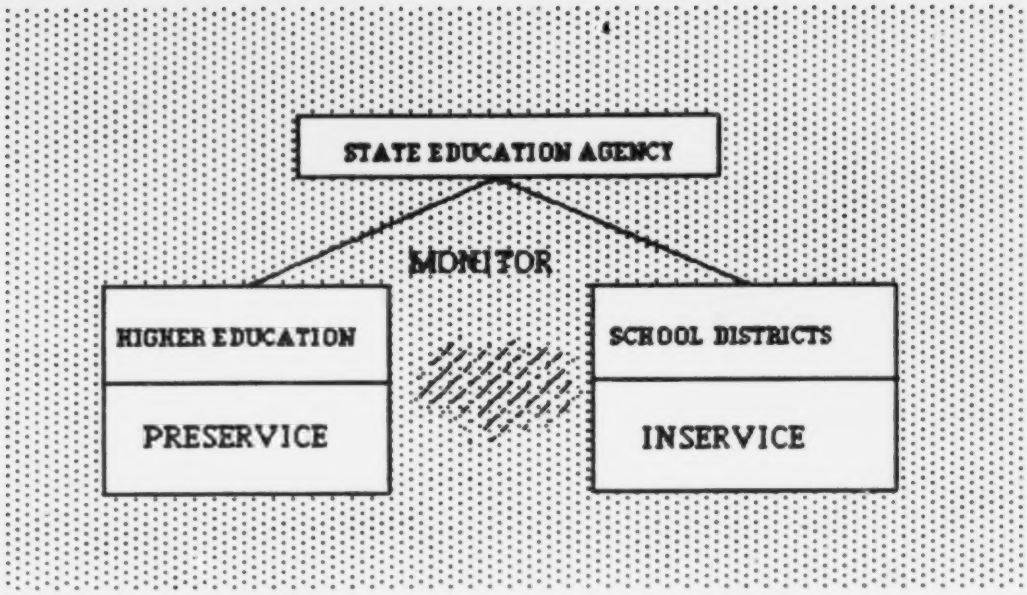

Figure 1. A dichotomous view of teacher education

Principal responsibility for preservice teacher education currently rests in the hands of institutions of higher education. Historically, this has not always been the case. The concept of preservice teacher education prior to the middle of the nineteenth century was largely unheard of. Local school boards were responsible for hiring and certifying their own teachers drawn often as not from the recent ranks of graduates from their own school(s). Serious attention to the specific training needs of prospective teachers surfaced just prior to the turn of the century. The rise of the normal school and evolution to state teachers colleges and university programs is described in detail by Powell (1976). He argues that this movement of preservice teacher education to higher education was part of a general effort over the past half century to legitimize teaching as an occupational profession with a distinct knowledge base and an extended preparatory period. States found it convenient to certify programs of preservice teacher education rather than individual candidates on a case by

case basis. Graduates of certified programs were assumed to be qualified and therefore were granted certification automatically.

Inservice education (or continued professional development) has been the chief responsibility of the school districts in which teachers are employed. The amount of inservice education offered (or required) varies from one school district to another and often takes direction from minimum standards for teacher inservice set by State Departments of Education. The identification of the school district as bearing primary responsibility for professional development through inservice training has not gone unchallenged. The position of "continued professional development" as a responsibility of the individual has long been the stance of such organizations as the National Education Association. Nevertheless, if one takes an outsider's view of governance of teacher education beyond the preservice level, the evidence points clearly toward school district control with state monitoring.

The Breakdown of the Model

Teacher educators have for many years argued against the dichotomous approach to preservice and inservice programs and warned against its inherent dangers. Fuller (1969), Tisher (1978, 1979) and others have long advocated a view of teacher education as a movement of the individual along a continuum of development. The conception is one of a person moving through a preservice program (i.e., training prior to a formal contract for services) into an induction phase (i.e., a beginning/first year(s) of teaching) and then into the inservice phase (i.e., continued professional development). There is a substantial research literature which suggests that the needs of individuals at various points along the continuum of development are distinct, and the argument offered by proponents of the

continuum perspective is that programs of teacher education should be tailored to these needs.

The past few years have created conditions where the arguments for a continuous view of teacher education are receiving increasing attention. The public outcry over the quality of teaching, mentioned earlier, has led to rapid activity at the state level in terms of changes in standards for teacher education (Andrews Associates, 1983; Defino & Hoffman, 1984; Flakus-Mosqueda, 1983; Sandefur, 1984).

States have become active in four major areas of control (Figure 2). A first checkpoint has come with states assuming a stronger hand in terms of who will be allowed to enter into preservice teacher education programs (decision point 1). Entry level tests (administered most often at the end of the sophomore or beginning of the junior year) screen candidates on basic communication (reading and writing) and computational skills. Only those students demonstrating minimum competency over these state developed and administered tests will be allowed to continue into the preservice programs at institutions of higher learning. A second checkpoint comes with mandated tests to be administered at the end of preservice programs (decision point 2). In most states this will take the form of paper pencil tests of knowledge of elementary content areas or secondary areas of specialization. The third point of control takes the form of delaying 'regular' certification until the successful completion of a first year of teaching (decision point 3). During that first year of teaching the "inductee" must demonstrate teaching skills on performance measures. Four states have such programs in place; four more in pilot stages; and eighteen more in planning stages. The final or fourth checkpoint coming into place relates to the area of continued professional development and the trend is toward a career

ladder conception of teacher development. States will set standards whereby teachers can eventually earn certification as "Master" teachers. In all, 36 states are actively engaged in some form and to some degree in testing the competency of their teachers.

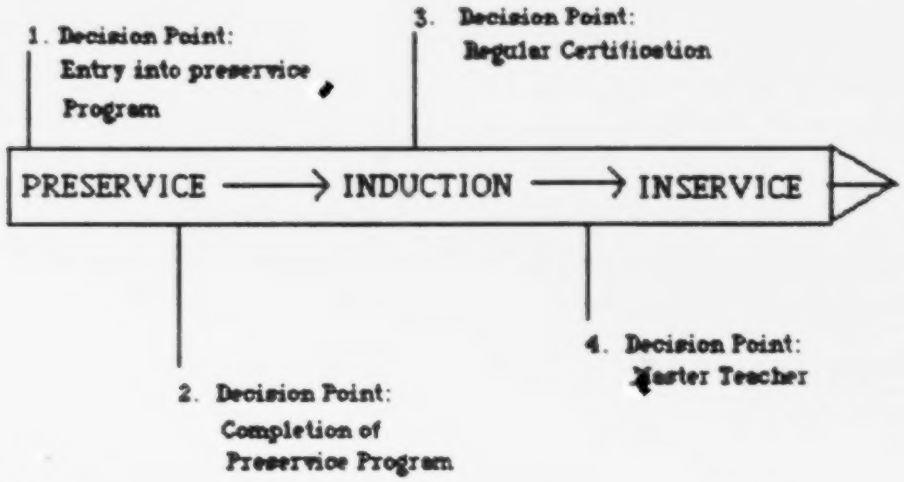

Figure 2. A continuous view of teacher education

In some sense we can see evidence in these policies of a conception of teacher development which is continuous. However, in contrast to the conceptually driven literature for the continuum view advocated by teacher educators, states are operating out of a control and reward structure which is tied to critical assessments points. The assistance dimension which dominates the teacher education literature is by and large absent.

Two facts are now apparent. First, the assessment devices being developed are drawing heavily on the research literature in effective teaching that has developed over the past two decades; and second, the shape of these assessment devices is driving the content and processes of assistance programs being developed. To understand where teacher education is headed then one must consider the ever expanding knowledge base of

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research on teaching not only in terms of findings but also in terms of evolution of research paradigms for studying effective teaching.

Research on Teaching

Early research on teaching focused on the attempts to identify those characteristics of teachers which were related to success in classrooms. The primary impetus for this research was the need for administrators to have direction in the hiring of new teachers. That is, the identification of a knowledge base that would allow them to predict a priori who would or would not be effective in the classroom. The line of research was largely unproductive. The American Educational Research Association Committee on Criteria of Teacher Effectiveness (1953) reviewing this literature in the mid '50s came to the conclusion that:

> The simple fact of the matter is that, after 40 years of research on teacher effectiveness during which a vast number of studies have been carried out, one can point to few outcomes that a superintendent of schools can safely employ in hiring a teacher or granting him tenure, that an agency can employ in certifying teachers, or that a teacher-education faculty can employ in planning or improving teacher-education programs. (p. 657)

Dunkin and Biddle (1974) have suggested a number of reasons for the failure of this line of work. First, there was a failure in most of the early effectiveness studies to observe the actual activities of teaching in classrooms. Researchers relied heavily on interviews and questionnaires as data sources. A second shortcoming of this research Dunkin and Biddle term 'theoretical impoverishment.' Data about the qualities of 'effective teachers' was often collected in shotgun fashion with little regard for establishing a rationale between the qualities of teachers and a conception of teaching. A third drawback to this literature related to the use of inadequate criteria for establishing effectiveness. Studies often relied solely on principal or peer teacher ratings as the basis for identifying

effective and less effective teachers. Finally, there was little attention given over in this literature to contextual effects. It was as if there was a search on to identify the characteristics of the perfect teacher who would excel in all places, all contents, at all levels and with all students.

In the mid '60s and the early '70s a new research paradigm for teaching began to emerge out of the work of Mitzel (1960), Rosenshine and Furst (1973), B. O. Smith (1963), and others. This paradigm has been termed the "process-product" paradigm and can be conceptualized best by examining the diagram below.

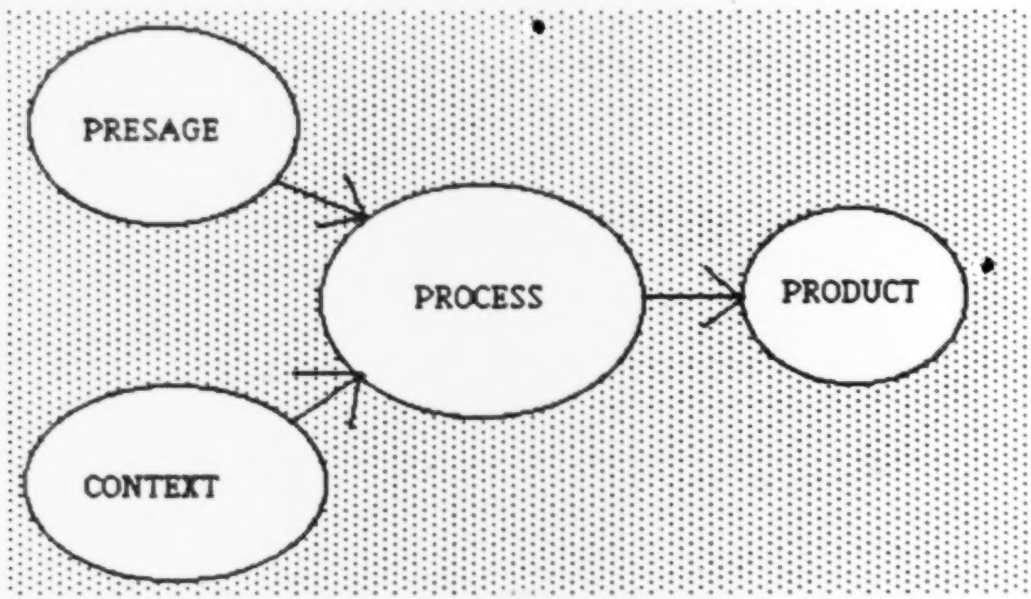

Figure 3. The process-product model for research in teaching

Four general kinds of variables are addressed in this paradigm.

1. Process Variables: The actual activities of classroom teaching. What teachers and pupils do in the classroom.
2. Presage Variables: The characteristics of teachers that may be examined for their effects on the teaching process.

3. Context Variables: The conditions to which the teacher must adjust--the characteristics of the environment (including students).

4. Product Variables: The outcomes of teaching--those changes that come about in pupils as a result of their involvement in classroom activities with teachers and other pupils.

Dunkin and Biddle describe some of the ways in which studies investigating these variables can inform our knowledge about teaching. Research can relate to:

1. The conceptualization and study of teaching processes.
2. The rate at which teaching processes occur in the typical classroom.
3. The relationship between contexts and processes of teaching.
4. The relationship between presage conditions and teaching processes.
5. The relationships among processes in the classroom.
6. The relationships between the processes of teaching and the products of teaching.

It is this last level of knowledge--the relationship of processes to products--which captured the intense interest of researchers of teaching. Numerous studies adopted this paradigm through the decade of the '70s. They offer us a complex albeit incomplete description of the technology of teaching effectively. That is, the findings suggest a repertoire of explicit teaching behaviors which are associated with high levels of pupil achievement (for reviews see Barnes, 1983; Duffy, 1982; Good, 1979; Rosenshine, 1983; Rupley et al, 1984). Kepler-Zumwalt (1982) has suggested that this body of research reflects a technological orientation to teaching. Koehler (1982) has labeled researchers operating in this area as "describers" of teaching. Both terms, taken together, seem to capture well the essence of correlational process product studies of effective teaching.

More recently, researchers utilizing the process product paradigm have moved into what Koehler has called an "improver" mode of research by demonstrating that the technology of effective teaching can be transferred to less effective teachers and that there are positive effects on pupil achievement associated with this change (e.g., Anderson, Evertson, & Brophy, 1979; Stallings at al., 1979). Researchers have in this manner been able to fulfill the challenge for a descriptive-correlational-experimental feedback loop set forth by Rosenshine and Furst (1973) in the Second Handbook of Research on Teaching, thus building a basis for inferring causal relationships of processes to products.

Beginning in the mid '70s and carrying on through the early '80s other lines of research on teaching emerged quite distinct from that of the process product model. One line of work has focused on the "mental" lives of teachers as opposed to the outward behaviors captured in process product research. The "mental lives" notion centers on the process and content of teacher thinking, planning and decision making. The assumption of the research model is that teaching is rational behavior in which thinking, values, predispositions, and so on play an important role in shaping classroom teaching behaviors. Early work has focused on the descriptions of teachers' mental lives as they plan for and reflect on instruction (see reviews by Clark & Yinger, 1979; Shavelson, 1983). In Kepler-Zumwalt's terms we might consider this research as describing teaching from a deliberative orientation.

Research efforts focusing on the improvement of instruction following a deliberative framework have recently emerged as a distinct, identifiable line of work. Slavin (1984) has suggested a paradigm for research in teaching that follows a deliberative/improver orientation which he terms

'Component Building.' He describes this type of instructional research as "a long program of field experimental research on classroom practices that are or could become components of complete programs, but are separable themselves." Component building instructional research is clearly deliberative in its orientation. I would suggest some additional criteria or characteristics of component building research: It is collaborative between researcher and practitioner in the "action research" (Corey, 1952) or Interactive R&D (Tikunoff, & Ward, 1983) tradition. It is iterative and longitudinal in nature in that it 'learns' from itself and builds on experience. It is focused both on the content and the processes of instruction in so far as it is curriculum based. And finally, it considers teachers as they affect (Doyle, 1978) student mediating behaviors in processing the curriculum.

Component building research seems to provide a potential point of contact between research in teaching and instructional research in such content areas as reading, mathematics, and science education. For example, in the area of instructional research in reading there are a number of individuals doing component building research although the label of the paradigm has not always been recognized as such. Duffy, Roehler, and Book (1983), Roehler and Duffy (1984) have conducted a series of investigations examining the effects of "explicit explanations" in direct instruction as it relates to reading comprehension. Au (1982) and Au and Mason (1983) have engaged in a series of studies of small group "participation structures" among native Hawaiian children examining the effects of alternative patterns of teacher/student talk over stories as it relates to comprehension. Our own work in a "story method" of oral reading as a means of developing

fluency, expression and comprehension follows a component building framework (Hoffman & Baker, 1981; Hoffman & Crone, 1984).

The contrasts between the technological and deliberative orientations and the describer versus improver modes of doing research provides a useful framework for considering the field of research in teaching (Figure 4).

	TECHNOLOGICAL	DELIBERATIVE
DESCRIBERS	PROCESS/PRODUCT CORRELATIONAL	TEACHER PLANNING AND DECISION MAKING
IMPROVERS	PROCESS/PRODUCT EXPERIMENTAL	COMPONENT BUILDING

Figure 4. An organizing framework for research in teaching

The purpose in drawing up this framework is not to value one form of research over another but to recognize differences in ways of coming to understand the world of teaching. Further, there is no intended representation in the model of one type of research being prerequisite to or solely informed by another type. In other words, component building research does not draw necessarily from findings from research in teacher planning and decision making. For example, component building research might use process-product naturalistic research as a starting point (e.g., Good, Grouws, & Ebmeier (1980) in later stages of the Missouri Mathematics Effectiveness Project). The utilization of contrasting orientations and modes of investigation to represent the world of research in teaching does

not, nor is it intended to, reflect the full complexity of the field. The conceptualization is offered here primarily as a heuristic for considering relationships of a field of inquiry (research in teaching) to a field of practice (teacher education).

Relating the World of Research on Teaching to Teacher Education

In relating research on teaching to teacher education I will be in part descriptive of what is going on and in part an advocate for what I believe should be going on. I will try to relate the continuum notion of teacher development as it is being shaped by the policies of states through assessment checkpoints to the framework for research on teaching which draws on the technological/deliberative-describer/improver contrasts (Figure 5). Rather than start at one end of the continuum and move toward the other I believe it is most useful to start at the point of the continuum where there is a direct contact between the research literature (the technological) and the induction phase of teacher development.

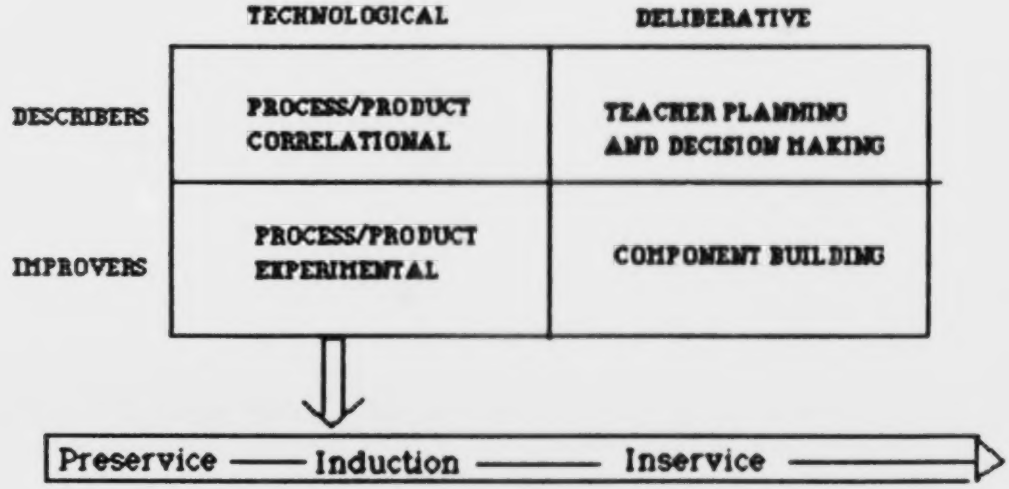

Figure 5. Research in teaching and the teacher education continuum

The performance based assessment instruments in use by the four states with active beginning teacher programs (Defino & Hoffman, 1984) are clearly drawn from the technological orientation literature on effective teaching. One only has to look at the instruments used to evaluate teachers (e.g., Florida's Performance Measurement System) in terms of domains covered and behaviors targeted to see the fit. What provisions are made in these state programs for assistance are clearly devoted to helping the first year teacher become a master of the technologies represented in the instruments. At this point in time, there is simply no evaluative literature to base judgments on the effects of such an orientation on beginning teachers. On the positive side I would argue that a case could be built for the value or benefits of a technological orientation as a new teacher enters into a new environment. There is likely a good deal of security gained in an uncertain world when one knows what it is that is expected of him or her, and further that the expected is achievable. On the negative side, I would argue that the technological orientation is flawed by the fact that the technology is not drawn from the specific program in which the teacher is expected to perform. I suspect that a careful analysis of the instructional program adopted in a particular school setting along the lines suggested by Hall and Loucks (1981) would yield a technological base far more useful to the beginning teacher than a set of decontextualized behaviors drawn from a rather remote literature. Such an analysis would offer a description of the various programs (both academic and management related) the beginning teacher is expected to implement. Rules and responsibilities would be articulated such that the beginning teacher would have a clear understanding of expectations. The goal for the first year teacher would be to enact the

curriculum. Support programs and assessment devices would be derived from the technology of the curriculum.

Moving along the continuum of teacher development, the connections between research on teaching and programs of support, in particular those that would guide the development of a concept of Master teacher, are less clear. There is some evidence (e.g., in Florida) that the technological orientation will be extended to evaluate the qualities of Master teachers. Indeed, it appears the same instruments will be utilized for assessing master teachers that are now part of the Beginning Teacher program. In Griffin's (1984) terms this trend is tied to a concept of Master teacher as a "better than" teacher at the technology of teaching (e.g., can Teacher A be more "exact" in praise than Teacher B? Can Teacher A ask more questions than Teacher B?). I would argue that continued professional development would be better informed by an orientation that draws from a deliberative component building/research base. These are teachers involved in curriculum development and knowledge production (Klein, 1984); involved in 'action research' projects; and participating in their own professional development. In Griffin's terms these are Master teachers that do "more than" just excel in the existing technology but participate in the development of new technology. These are master teachers doing component building research. As new discoveries are made the knowledge accrued is added to the technological base.

Moving back now to the other end of the teacher development continuum we can ask: How might research on teaching inform preservice teacher education? To address this point let me contrast the status quo with two possible scenarios for the future. The status quo is best characterized as too little time to do too much, so a lot is done poorly. Taking reading

education as an example, it has only been in the past decade that a reading methods class has become a required part of teacher preparation for elementary teachers in most states. Indeed, a number of states have moved to require six semester hours of reading coursework. From a reading educator's view this may be seen as a positive move, but from a teacher educator's view one quickly sees a case of robbing from Peter to pay Paul. The total number of hours devoted to professional preparation has remained unchanged for decades. The amount of time devoted to academic preparation in preservice teacher education programs is paultry compared to any other professional training programs.

The trend over the past decade for more and earlier field involvement could also be used to characterize preservice teacher education. Again, one cost of this increased commitment to field based experiences has been to tax the already limited amount of time available in the preservice program. Further, there is no clear evidence that these early field experiences are at all related to program effectiveness. My own observation (which I come to find echoes the view expressed by John Dewey, in 1904) is that early and intensive field experiences force students into a technological mode of thinking about teaching. This mode may not be the most conducive to the acquisition of new knowledge on the part of students of teaching. Students in a technological mode are receptive to information that fits immediate needs only.

In terms of possible scenarios for the future I see a distinct likelihood that the technological orientation which permeates beginning teacher programs will come to play a significant part in preservice programs and in particular the field based component. What teacher training institution--vying for students in a competitive market place--would not

consider the manner in which success in the first year of teaching is to be evaluated?

A different scenario, and one that I am biased toward, requires an expansion of the amount of time teachers spend in preservice programs. (This might take the form of fifth year programs as suggested in the Carnegie Report or a two-year post baccalaureate program as suggested by Joyce and Clift (1984)). And second, it would assume a basic knowledge building orientation to teacher education at the preservice level. The second point deserves some explanation, and a focus on a content area such as reading instruction is useful to develop my case. The existing knowledge base for reading instruction is broad and deep. It reaches far into such disciplines as psychology, linguistics, and sociology. Pedagogy in reading has a rich and meaningful history of development revolving around numerous issues and controversies. In just the past few years, we have had, for example, an enormous growth in the literature on reading comprehension and reading comprehension instruction. We must transmit this knowledge base as it develops to our students. To the degree that field or practicum experiences can inform a student's understanding of pedagogical issues then such experiences should be part of preservice education. To the degree that they put students into a technological mode they should be avoided. It is this broad knowledge base that will permit students to emerge from what is perhaps a necessary technological phase as a part of personal development that accompanies the first years of teaching into a deliberative mode which is part of continued professional development.

Making It The Best of Times

I would like to offer three very specific recommendations regarding teacher education and research on teaching which I feel are an outgrowth of the conceptualizations just presented.

1. Create induction programs which are district or better yet school based and focused on the technology of the instructional program the beginning teacher is expected to implement. I would envision a two stage process in initiating such programs. The first phase would involve a careful analysis of the configuration of the instructional program in place in a school or district by a group of "Master" level teachers. The second phase would involve the implementation of an assistance/assessment program for beginning teachers which is focused on mastery of the technology of the instructional program in place in that school/district.
2. Foster component building research which relates well to the "more than" concept of a master teacher as curriculum developer and program leader. Master teachers (in collaboration with researchers) would be given responsibility and rewards for conducting component building research which informs a viable, emerging instructional program.
3. Develop preservice programs which are knowledge building, to wit, given the influence of state assessment on the assistance dimensions, we need to provide significant input and direction toward the development of valid and reliable assessment instruments that are to be used at the completion of preservice programs. Such a move will not only help to define relevant content for preservice programs but also may serve as a means to

insulate the preservice experience from the influence of technologically focused induction programs.

This is not an idle wish list but a call for action. As noted earlier, most states are embroiled in activity with respect to the development of new standards for teacher education and the assessment procedures to be employed to enforce them. The National Institute of Education is in the process of reordering priorities for educational research over the next decade. Decisions will be made and made soon. Whether they are informed decisions or not depends on whether those who have valuable information and insight take an active role in brokering their viewpoint.

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